
LISTING OF CLAIMS

Claim 1 (previously canceled)

Claim 2 (previously canceled)

Claim 3 (previously canceled)

Claim 4 (previously canceled)

Claim 5 (previously canceled)

Claim 6 (previously canceled)

Claim 7 (previously canceled)

Claim 8 (previously canceled)

Claim 9 (previously canceled)

Claim 10 (previously canceled)

Claim 11 (previously canceled)

Claim 12 (previously canceled)

Claim 13 (previously canceled)

Claim 14 (previously canceled)

Claim 15 (previously canceled)

Claim 16 (previously canceled)

Claim 17 (previously canceled)

Claim 18 (previously canceled)

Claim 19 (previously canceled)

Claim 20 (currently amended) - A method for loss on drying, the steps including:
placing a specimen in a cylindrical microwave chamber;

monitoring the microwave energy within the cylindrical microwave while powering the microwave to dry the specimen by comparing a transition of slope of microwave energy absorbed by the specimen with a characteristic microwave energy exemplar;

venting moisture from the microwave during a drying process.

a Claim 21 (currently amended) - The method of claim 20 further including the step of subsequently decreasing the microwave power during drying process as a function of microwave energy absorbed by the specimen.

Claim 22 (currently amended) - A microwave moisture analyzer, comprising in combination:

a cylindrical microwave containment chamber;

said cylindrical microwave containment chamber including a pair of portals disposed therein;

a microwave energy source;

a wave guide operatively coupled between said microwave energy source and said portals for delivering microwave energy to said chamber;

means for supporting a sample within said chamber;

means for sensing microwave energy for controlling the amount of microwave energy delivered to said chamber as a function of the sample being analyzed by establishing a benchmark correlative to a level of microwave energy sensed and comparing sensed microwave energy to the benchmark.

Claim 23 (original) - The microwave moisture analyzer of claim 22 further including a toploading electronic balance operatively disposed within said microwave chamber.

Claim 24 (original) - The microwave moisture analyzer of claim 23 wherein said electronic balance is only actuated prior to and after the delivery of microwave energy to said chamber for determining an initial weight and a final weight of the sample.

Claim 25 (original) - The microwave moisture analyzer of claim 24 further including means operatively coupled to said electronic balance for automatically determining sample moisture.

Claim 26 (previously canceled)

Claim 27 (previously canceled)

Claim 28 (previously canceled)

Claim 29 (previously canceled)

Claim 30 (previously canceled)

Claim 31 (previously canceled)

Claim 32 (previously canceled)

Claim 33 (previously canceled)

Claim 34 (currently amended) - A method for loss on drying, the steps including:
applying microwave energy to a sample having a known initial weight;
monitoring the microwave energy to detect radiation absorbed by the sample and comparing absorbed radiation to a characteristic radiation curve;
surceasing the applied microwave energy as a function of the monitored microwave energy.

Claim 35 (original) - The method of claim 34 wherein the step of surceasing the microwave energy occurs when the monitored microwave energy has a signature correlative to a stabilized high value.

Claim 36 (original) - The method of claim 35 further including the step of obtaining the final weight of the sample.

Claim 37 (original) - The method of claim 36 further including the step of determining a moisture content of the sample as a function of the initial and final weights.

Claim 38 (previously canceled)

Claim 39 (previously canceled)

Claim 40 (previously canceled)

Claim 41 (previously canceled)

Claim 42 (previously canceled)

Claim 43 (previously canceled)

Claim 44 (original) - A method for loss on drying, the steps including:

establishing an algorithm correlative to a change in radiation as function of load absorbability;

sensing radiation correlative to an absorbability of a load being radiated within a chamber;

comparing the sensed radiation to the algorithm for determining a benchmark correlative to an endpoint condition.

Claim 45 (original) - The method of claim 44 further including the step of determining an initial weight of the load before being radiated.

Claim 46 (original) - The method of claim 45 further including the step of determining a final weight of the load after the endpoint condition.

Claim 47 (original) - The method of claim 46 further including the step of determining moisture content of the load.

Claim 48 (original) - A method for loss on drying, the steps including:

- establishing a characteristic radiation curve of a sample type correlative of its radiation absorbability;
- radiating a specimen of the sample type;
- developing a specimen radiation curve by monitoring a change in radiation correlative to radiation absorbability of the specimen;
- comparing a transition of slope on the characteristic radiation curve with a transition of slope on the specimen radiation curve;
- continuing to radiate the specimen until a predetermined endpoint condition has been met based on the comparison step.

Claim 49 (original) - A method for loss on drying, the steps including:

- establishing a benchmark correlative to a level of microwave energy sensed by a sensor;
- employing the sensor to monitor a level of microwave energy within a chamber wherein a sample is being radiated;
- comparing the monitored energy level with the benchmark level for controlling a drying process of the sample.

Claim 50 (original) - A method for loss on drying, the steps including:

- establishing a characteristic radiation curve of a sample type correlative of its radiation absorbability;
- radiating a sample contained within a chamber;
- comparing subsequently sensed levels of radiation within the chamber with the characteristic curve for determining an endpoint condition.

Claim 51 (previously canceled)

Claim 52 (previously canceled)

Claim 53 (previously canceled)

Claim 54 (currently amended) - The method of claim 20 wherein the monitoring step includes monitoring electric field strengths within the cylindrical microwave chamber while powering the microwave to dry the specimen.

Claim 55 (canceled)

Claim 56 (previously canceled)

Claim 57 (previously canceled)

Claim 58 (currently amended) - A method for loss on drying, the steps including:

placing a specimen in a cylindrical chamber;

monitoring changes in microwave energy within the cylindrical chamber while powering a magnetron to dry the specimen and comparing sensed energy to an algorithm to determine a benchmark correlative to an endpoint condition;

venting moisture from the microwave during drying.

Claim 59 (currently amended) - A microwave moisture analyzer, comprising in combination:

a cylindrical microwave containment chamber;

said cylindrical microwave containment chamber including a pair of portals disposed therein;

a microwave energy source;

a wave guide operatively coupled between said microwave energy source and said portals for delivering microwave energy to said chamber;

means for supporting a sample within said chamber;

means for sensing changes in microwave energy and means for controlling the amount of microwave energy delivered to said chamber as a function of the changes in the microwave energy being sensed in order to establish a benchmark correlative to a standard.

Claim 60 (currently amended) - A method for loss on drying, the steps including:

applying microwave energy to a sample having a known weight;

monitoring changes in the microwave energy;

surceasing the applied microwave energy as a function of the changes in the monitored microwave energy upon denoting an endpoint having been reached upon comparison of applied microwave energy to a benchmark.

Claim 61 (original) - A method for loss on drying, the steps including:

establishing an algorithm correlative to a change in radiation as a function of load absorbability;

sensing stray radiation and its changes correlative to an absorbability of a load being radiated within a chamber;

comparing the sensed radiation to the algorithm for determining a benchmark correlative to an endpoint condition.

Claim 62 (original) - A method for loss on drying, the steps including:

establishing a characteristic radiation curve of a sample type correlative of its radiation absorbability;

radiating a specimen of the sample type;

developing radiation curve for the specimen by monitoring a change in radiation correlative to radiation absorbability of the specimen;

comparing a transition on the characteristic radiation curve with a transition on the specimen radiation curve;

continuing to radiate the specimen until a predetermined endpoint condition has been met based on the comparison step.

a1 Claim 63 (original) - A method for loss on drying, the steps including:

establishing a benchmark correlative to a level of microwave energy sensed by a sensor;

employing the sensor to monitor a level of microwave energy within a chamber wherein a sample which tracks the benchmark is being radiated;

comparing the monitored energy level with the benchmark level for controlling a drying process of the sample by discerning when the benchmark is attained.

Claim 64 (original) - A method for loss on drying, the steps including:

establishing a characteristic radiation curve of a sample type correlative of its radiation absorbability;

radiating a sample contained within a chamber;

sensing radiation changes in the chamber which correlates to the sample's relative dryness;

Q1 comparing subsequently sensed levels of radiation within the chamber with the characteristic radiation curve for determining an endpoint condition when the sample is dry.
